DEPARTMENT OF ENVIRONMENTAL QUALITY
Environmental Assessment

Permitting and Compliance Division
Water Protection Bureau

Name of Project: Town of Sheridan Domestic Wastewater Treatment Facility

Location of Project: Existing facility: T 4S, R 5W, Section 27;
Proposed new facility: T 4S, R 5W, Sec. 20.

City/Town: Sheridan **County**: Madison

Description of Project:

This is the reissuance of an MPDES permit for the Town of Sheridan Domestic Wastewater Treatment facility. The Town currently operates a single cell facultative lagoon for its domestic wastewater treatment that was built in the late 1950's. The receiving water is an unnamed man-made ditch that eventually discharges into Indian Creek. The Outfall to the unnamed man-made ditch is Outfall 001.

The Town is proposing to upgrade to an aerated lagoon that would be built in a new location and discharge to a new receiving water. The new receiving water is a small perennial unnamed tributary to the Leonard Slough, a wetland complex that drains to the Ruby River. The new discharge is Outfall 002. Non-degradation rules in ARM 17.30.701-718 apply to Outfall 002 and its impacts had to be reviewed for nonsignificance. The resulting effluent limits were based on nonsignificance criteria given in ARM 17.30.715.

Agency Action and Applicable Regulations: The proposed action of the Department is to reissue the MPDES permit for a five-year cycle.

Applicable rules and statute:
ARM Title 17, Chapter 30, Sub-chapter 2 - Water Quality Permit Application and Annual Fees.
ARM Title 17, Chapter 30, Sub-chapter 5 - Mixing Zones in Surface and Ground Water.
ARM Title 17, Chapter 30, Sub-chapter 6 - Surface Water Quality Standards.
ARM Title 17, Chapter 30, Sub-chapter 7 - Nondegradation of Water Quality.
ARM Title 17, Chapter 30, Sub-chapter 12 and 13 - Montana Pollutant Discharge Elimination System Standards.
Montana Water Quality Act, MCA 75-5-101 et. seq.

Summary of Issues: The limits calculated for Outfall 002 are low for nutrients, specifically total ammonia as nitrogen, total nitrogen, and total phosphorus. An aerated lagoon facility cannot be expected to consistently achieve low-level nutrient removal. The permit limits discharge to October 1 through April 30 so as to decrease the impacts of nutrient addition on the receiving water. The ammonia limits are less than what typical Montana aerated lagoons achieve during the cooler, winter months when nitrification slows.

Affected Environment & Impacts of the Proposed Project:

Y = Impacts may occur (explain under Potential Impacts). *Include frequency, duration (long or short term), magnitude, and context for any significant impacts identified. Reference other permit analyses when appropriate (ex: statement of basis). Address significant impacts related to substantive issues and concerns. Identify reasonable feasible mitigation measures (before and after) where significant impacts cannot be avoided and note any irreversible or irretrievable impacts. Include background information on affected environment if necessary to discussion.*

N = Not present or No Impact will likely occur. *Use negative declarations where appropriate (wetlands, T&E, Cultural Resources).*

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?	The existing facility (Outfall 001) is built atop Quaternary (Holocene and Pleistocene) alluvial fan deposits, which are characterized as poorly sorted silty-sand to gravel deposits along valley margins. The new facility is slated to sit at the margin of the Quaternary fan deposit and the alluvial deposits left by modern river systems. Soils that underlie the present facility (001) and the proposed new lagoon are characterized by the USDA Soil Survey as Thess loam. This soil type has been characterized as "very limited" for sewage lagoons. Sheridan is in a seismically active area. The USGS has estimated the seismic probability for an earthquake w/ 5.0 magnitude (body-wave magnitude) or greater at 0.30-0.35 for a ten-year time frame. For a 50-year time frame, the probability of a 5.0 magnitude or greater earthquake increases to 0.80-0.90.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?	Existing facility (001) is situated between two drainages and several manmade ditches. The receiving water, a man-made ditch, gains groundwater expression along the north lagoon dike to the point of discharge. The underlying alluvial aquifer is used by near-by residents for domestic and livestock uses. Well logs for the area around the existing lagoon show a gravel-sand-clay unconfined alluvial aquifer that could be 175 feet deep (according to Town of Sheridan #4 well). Static water level for wells in the shallow aquifer is 3-30 feet deep (well depths range from 25-90' deep). Well logs for wells near the proposed new facility location indicate groundwater at or greater than 35' below surface. Wells completed in this area are for domestic or irrigation use. Wells are completed in sand & gravel.
3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	The existing facility may release odor during spring turn-over. An upgrade to an aerated facility could reduce the time of spring turn-over through the addition of air. No other air quality impacts are expected.
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?	A request made of the Natural Heritage Program database returned two vascular plant species of concern – Rocky Mountain dandelion and the slender Indian paintbrush. Both were first and last observed in 1892. The existing wastewater facility has been in the current location for 50+ years; the proposed new facility will be built on property currently used for hay cultivation and/or grazing. It's unlikely that either facility will impact the species of special concern given the impacts of the current landuses.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	None
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	A survey of the National Heritage Program database lists the Bald Eagle as the only species of special concern identified in the area. It is listed as "threatened" by the USFS, and has "special status" with the BLM. Townsend's big-eared bat is also identified as having "inferred extends", meaning the area around both wastewater treatment facility locations are inferred to be probable occupied habitat on the special location of the direct observation of a species.

IMPACTS ON THE PHYSICAL ENVIRONMENT	
7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	None
8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	The wastewater facility has been in the current location for decades. Urban development is low.
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project? Will new or upgraded powerline or other energy source be needed)	No impacts are expected.
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?	No impacts are expected.

IMPACTS ON THE HUMAN ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	Public health and safety will be improved by treating the community's domestic sewage prior to discharge.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	No impacts are expected at this time.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	No impacts are expected at this time.
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	No impacts are expected at this time.
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	Additional personnel time may be required for an aerated lagoon w/ seasonal land application of treated waste (irrigation). No further impacts are anticipated at this time.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	No impacts are expected at this time.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	No impacts are expected at this time.
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	No impacts are expected at this time.
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	No impacts are expected at this time.
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	No impacts are expected at this time.
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	None identified at this time.
22(a). PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	No

IMPACTS ON THE HUMAN ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
22(b). PRIVATE PROPERTY IMPACTS: Is the agency proposing to deny the application or condition the approval in a way that restricts the use of the regulated person's private property? If not, no further analysis is required.	[ ]
22(c). PRIVATE PROPERTY IMPACTS: If the answer to 21(b) is affirmative, does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives. The agency must disclose the potential costs of identified restrictions.	[ ]

23. Description of and Impacts of other Alternatives Considered: None

24. Summary of Magnitude and Significance of Potential Impacts: None

25. Cumulative Effects: None

26. Preferred Action Alternative and Rationale: The preferred action is to reissue the MPDES permit. This action is preferred because the permit program provides the regulatory mechanism for protecting water quality by enforcing the terms of the MPDES permit.

Recommendation for Further Environmental Analysis:

[ ] EIS [ ] More Detailed EA [X] No Further Analysis

Rationale for Recommendation:

27. Public Involvement: A 30-day public comment period will be held.

28. Persons and agencies consulted in the preparation of this analysis: None

EA Checklist Prepared By: Rebecca Ridenour **Date:** June 11, 2007

Approved By:

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Bonnie Lovelace, Chief Date
Water Protection Bureau